

**UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF NEW YORK**

SECURITIES AND EXCHANGE COMMISSION,

17-cv-01789 (DLC)

Plaintiff,

v.

LEK SECURITIES CORPORATION, SAMUEL LEK,  
VALI MANAGEMENT PARTNERS d/b/a AVALON  
FA LTD, NATHAN FAYYER, and SERGEY  
PUSTELNIK a/k/a/ SERGE PUSTELNIK,

Defendants.

**MEMORANDUM OF LAW IN SUPPORT OF DEFENDANTS LEK SECURITIES  
CORPORATION AND SAMUEL LEK'S MOTION TO EXCLUDE THE TESTIMONY  
AND OPINIONS OF PUTATIVE EXPERT TERENCE HENDERSHOTT**

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Defendants Lek Securities Corporation (“LSC”) and Samuel Lek (together with LSC, the “Lek Defendants”) respectfully submit this Memorandum of Law in support of their Motion pursuant to Rule 702 of the Federal Rules of Evidence to exclude the testimony and opinions of the Securities and Exchange Commission’s (the “SEC” or “Commission”) putative expert, Terrence Hendershott.

### **PRELIMINARY STATEMENT**

The Commission proffers Hendershott, a long-time professor with virtually no trading experience, as a purported expert to identify trading consistent with the layering scheme alleged in the Complaint. To do so, Hendershott created entirely novel criteria to identify layering that has no basis in law, regulation, practice, or academic literature and is directly contradicted by the criteria used by the Financial Industry Regulatory Authority (“FINRA”) and securities exchanges—entities with actual experience—to surveil for layering. Hendershott’s criteria examines only order and execution imbalances, while FINRA and securities exchanges require both substantially higher imbalances and a host of nuanced factors that Hendershott explicitly ignores, including price changes, the width of the bid/ask spread, liquidity, the volume of shares offered at the top of the market, the depth of market, and the volume of shares offered at every price level.

The result is staggering. Over eighty percent of the alleged “layering loops” identified by Hendershott were not characterized by FINRA—LSC’s primary regulator—as even potential layering. A methodology so inconsistent with that of the industry’s primary regulator is simply not reliable, and is violative of Federal Rule of Evidence 702, *Daubert* and its progeny.

In addition, Hendershott’s criteria troublingly ignores the sequence of order events. It assumes that potential layering occurs despite the absence of Hendershott’s required imbalance

between “non-bona fide” and “bona fide” orders. Such an illogical sequence is a material flaw that undermines both his analysis and the very notion of layering.

Likewise, Hendershott’s testimony and opinions suffer from selection bias. Hendershott only analyzed a small subset (approximately four percent) of Avalon FA Ltd.’s (“Avalon”) trade data, chosen by applying selection criteria that he believed would be consistent with a layering strategy. Because Hendershott cherry picked only the orders he felt were consistent with layering, it can be no surprise that his “further analyses” concluded that those same orders—which he calls “Layering Loops”—had characteristics consistent with layering. His analyses of the limited dataset leads to fundamentally misleading, unreliable and incorrect results. For instance, analyzing all Avalon data—something Hendershott failed to do—demonstrates that Avalon’s two-sided imbalanced orders did not typically lead to imbalanced executions in favor of the “bona fide” orders. Hendershott also ignores the impact of orders, executions and cancellations of the entirety of the market outside of Avalon, and thus cannot account for the possibility that the penultimate act of layering—favorable executions of ‘bona fide’ orders—was brought about by other market players. Finally, Hendershott’s opinion is unreliable as his further analysis relies exclusively on samples of trades selected by the Commission.

What the Commission is doing here is clear. They are relying on Hendershott’s pseudo-statistical analysis to create a bloated and misleading number of alleged “Layering Loops” (a term that did not exist before Hendershott was hired by the Commission) to claim that something untoward must have happened in this case. However, Hendershott himself concedes that he has not concluded that actual layering occurred in any of his “Layering Loops.” His methodology and analysis for creating the “Layering Loops” is so flawed and fundamentally at odds with established industry practice that it has no place in this case. Accordingly, not only are

Hendershott's methodologies unsound, but his conclusions are meaningless and therefore inherently unreliable.

## **FACTUAL BACKGROUND**

### **A. Hendershott's Background**

Hendershott is a Professor at the Haas School of Business at the University of California, Berkeley, where his expertise and research interests focus on market microstructure. (Declaration of Steve M. Dollar in Support of the Motion, dated August 23, 2018 ("Dollar Decl."), Ex. 1 (Expert Report of Terrence Hendershott, Ph.D., dated April 3, 2017 (the "Hendershott Report")) at ¶ 1; Dollar Decl. Ex. 2 (Deposition Transcript of Terrence Hendershott, dated May 9, 2017 ("Hendershott I Dep. Tr.") at 43:14-21). His research focuses on what information traders use, how those strategies interact, and how those affect prices. (Dollar Decl. Ex. 1 (Hendershott Report) at ¶ 2). Hendershott, a lifelong academic, has no professional experience working at a financial institution, broker-dealer, or securities exchange. (Dollar Decl. Ex. 1 (Hendershott Report) at Ex. 1; Dollar Decl. Ex. 3 (Deposition Transcript of Terrence Hendershott, dated August 3, 2018 ("Hendershott II Dep. Tr.") at 171:6-8).

### **B. Criteria to Identify Layering**

#### **1. *Hendershott's Layering Criteria***

In seeking to substantiate the Commission's claims, Hendershott created a new methodology to identify "orders and trades [allegedly] consistent with a layering strategy." (Dollar Decl. Ex. 1 (Hendershott Report) at ¶ 17). Applying his self-made criteria to Avalon's transaction data for common stocks traded on U.S. markets through LSC during the period of December 2010 through September 2016 (the "Avalon Trade Data"), he refers to less than five

percent of the trades as “Layering Loops.”<sup>1</sup> (*Id.* at ¶ 17). The criteria, which Hendershott agrees are entirely of his own device, and are not found in any statute, rule, regulation, or peer-reviewed article<sup>2</sup>, are as follows:

**Criterion 1:** Traders must place “both purchase and sale orders in a single stock before closing these orders out through cancellation or execution” within 60 seconds, which is referred to as “Loops.” (*Id.* at ¶¶ 17-18).

**Criterion 2:** “Loud”<sup>3</sup> side orders must be sufficiently greater than the “Quiet”<sup>4</sup> side orders, with at least a 2-to-1 ratio of Loud-side visible orders to Quiet-side visible orders, which is referred to as “Order Imbalance.” (*Id.* at ¶¶ 17, 19).<sup>5</sup>

**Criterion 3:** First, the execution of any Quiet-side orders must be sufficiently greater than the Loud-side orders, with at least a 3-to-1 ratio of executed Quiet-side shares to executed Loud-side shares, which is referred to as the “Execution Imbalance.” (Hendershott Report at ¶¶ 17, 20). Second, there can be no Loud-side orders placed more than one second after the last Quiet-side execution or cancellation in Layering Loops. (*Id.* at ¶ 20 n.15).

Hendershott concedes his layering criteria does not consider the:

- Price at which Avalon’s orders were placed;
- Length of time Avalon’s orders (either Loud or Quiet) were left in the market;
- National Best Bid and Offer (“NBBO”) at the time the Avalon orders were placed;
- Volume of shares available at the NBBO;

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<sup>1</sup> “Loops” are defined identically as they are in Hendershott’s Report: to include a 60-second period during which “traders purchase and sale orders in a single stock before closing these orders out through cancellation or execution.” (Dollar Decl. Ex. 1 (Hendershott Report) at ¶¶ 17-18). Hendershott admitted that the term “loop” was created only as part of this case. (Dollar Decl. Ex. 2 (Hendershott I Dep. Tr.) at 44:17-21).

<sup>2</sup> (Dollar Decl. Ex. 2 (Hendershott I Dep. Tr.) at 25-30).

<sup>3</sup> “[T]he side with more orders for a greater quantity of shares placed by the trader to create the artificial appearance of supply or demand is referred to as the ‘Loud’ side.” (Dollar Decl. Ex. 1 (Hendershott Report) at ¶ 14).

<sup>4</sup> “The smaller side of the strategy that the trader intends to benefit from is referred to as the ‘Quiet’ side.” (Dollar Decl. Ex. 1 (Hendershott Report) at ¶ 14).

<sup>5</sup> Lawrence Pines, the Commission’s putative trading expert, opines that he’s “not prepared to say that there is a specific threshold in terms of th[e] [order] imbalance that has to be met in order for that to be classified by regulators as layering.” (Dollar Decl. Ex. 4 (Deposition Transcript of Lawrence Pines, dated July 10, 2018 (“Pines Dep. Tr.”)) at 161:21-24).



- Number of orders at the NBBO;
- Depth of the book, meaning the volume of shares available at each of the price points outside of the NBBO;
- Entirety of the activity of non-Avalon market participants—i.e., the other trades participating in the market of the relevant stock—such as their own orders, cancellations, and executions;
- Volume of shares in the market of the particular stock;
- News relevant to securities in Layering Loops, such as the state of the particular markets or the general industry;
- Movement of correlated stocks to stocks within Layering Loops;
- Individual strategies of any traders; or
- Volatility of stock prices.

(Dollar Decl. Ex. 3 (Hendershott II Dep. Tr.) at 63:19-72:25).<sup>6</sup>

Nevertheless, using his layering criteria, Hendershott concludes that 675,504<sup>7</sup> of Avalon's Loops "qualify as Layering Loops." (Dollar Dec. Ex. 1 (Hendershott Report) at ¶ 21). That said, Hendershott has not concluded that any single Layering Loop consists of actual manipulative layering. (*See, e.g.*, Dollar Decl. Ex. 2 (Hendershott I Dep Tr.) at 19:24-22:13, 37:7-23) Rather, he claims that his opinion concerns a "pattern of evidence" that "look[s] like layering" while conceding his belief that it is "hard to know" if layering is present in individual examples. (*Id.* at 38:7-17)

Hendershott's identified Layering Loops reflect a small subset of both Avalon's number of trades and trading volume. The 675,504 alleged Layering Loops constitute 1.4% of the

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<sup>6</sup> Pines also readily admits that he looked at the numerous factors to "identify spoofing at the time in the equities markets" during his time as a trader, many of which are not considered by Hendershott's criteria. (Dollar Decl. Ex. 4 (Pines Dep. Tr.) at 115:14-16). They include, *inter alia*, liquidity (*id.* at 134:16-17), time of day (*id.* at 135:15), the particular stock (*id.* at 135:16), and the specific exchange to which the order is routed (*id.* at 136:11-14). Again, all of this additional information was available to Hendershott, but he declined to use it.

<sup>7</sup> In his initial report, Hendershott identified 675,506 Layering Loops. (Dollar Decl. Ex. 1 (Hendershott Report) at ¶ 11). On June 23, 2017, Hendershott submitted a supplemental report revising his previous analysis to remove two loops, leaving 675,504 Layering Loops. (Dollar Decl. Ex. 5 (Supplemental Expert Report of Terrence Hendershott, Ph.D., dated June 23, 2017) at ¶ 8).

47,799,524 Loops in the Avalon Trade Data. (Dollar Decl. Ex. 6 (Rebuttal Report of David J. Ross Regarding the Alleged Layering Scheme, dated May 11, 2018 (the “Ross Rebuttal Report”)) at ¶ 25). Hendershott also acknowledges that “less than 5% of Avalon’s equity trading volume is in Layering Loops[.]” (Dollar Decl. Ex. 1 (Hendershott Report) at ¶ 41). Hendershott does not consider, evaluate, or otherwise address the trades in the Avalon Trade Data that do not meet his criteria and, therefore, are not Layering Loops.

## 2. *Layering Criteria Used by Regulators FINRA and BATS*

FINRA, the primary regulator of the securities trading industry, and BATS Exchange, Inc. (“BATS”), a self-regulatory organization that operates numerous<sup>8</sup> equity exchanges, surveilled for potential layering during the time at issue. (Dollar Decl. Ex. 7 (Exhibit 15 to the Deposition Transcript of Sherilyn Belcher, dated March 16, 2018 (“Belcher Dep. Tr.”) (“Belcher Ex. 15”)); Dollar Decl. Ex. 8 (Memorandum by BATS Exchange, Inc. (“BATS Layering Memo”) at 1). Both regulators utilized criteria to identify potential layering that is categorically different than Hendershott. (Dollar Decl. Ex. 9 (Belcher Dep. Tr.) at 76:04-16). Despite the availability of criteria actually utilized by the industry, Hendershott admits he did not review (or even consider) any criteria utilized by either BATS or FINRA. (Dollar Decl. Ex. 3 (Hendershott II Dep. Tr.) at 74:11-25, 76:1-7). And while BATS and FINRA surveilled Avalon’s trading in question, Hendershott developed his own criteria because he “wanted to develop the criteria that [he] thought were appropriate for the facts and circumstances of this case.” (*Id.* at 76:14-77:1). As a result, there is a difference in what trading the regulators and Hendershott define as “consistent with layering.”

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<sup>8</sup> SEC, CBOE Holdings Agrees to Acquire Bats Global Markets to Strengthen CBOE Holdings’ Global Position in Innovative Tradable Products and Services, and Achieve Meaningful Cost and Operational Efficiencies, available at [https://www.sec.gov/Archives/edgar/data/1659228/000095010316016528/dp68923\\_ex9901.htm](https://www.sec.gov/Archives/edgar/data/1659228/000095010316016528/dp68923_ex9901.htm) (last visited Aug. 24, 2018).

**a. FINRA Criteria**

Sherilyn Belcher is the Director of Market Regulation at FINRA.<sup>9</sup> Belcher testified that, in surveilling the markets for trading consistent with layering, FINRA historically has “not prescribed certain numbers” for FINRA’s order entry ratios, execution ratios, or cancellations because specific analyses for spotting trading consistent with layering goes beyond “certain numbers” and considers “the factors of liquidity, spread in the security, [and] the type of security.” (Dollar Decl. Ex. 9 (Belcher Dep. Tr.) at 73:10-75:14). Belcher explained the specific factors FINRA considers to review suspected layering—across all U.S. equity markets—in both liquid and illiquid stocks:

So again, you’re going to look at the size of the spread, you’re going to look at -- or the width of the spread, so the difference in price between the bid and offer; the shares that are available on the bid and offer; the depth of market, so kind of the layers beneath the inside spread, and that is kind of what layering actually plays on is. Well, it’s what’s inside the spread and also what’s outside the spread, but the depth of market is one of the factors that you would look at to see, you know, are there shares at every price level, and what kind of volume is at every price level, things like that.

(*Id.* at 76:04-16).

Hendershott has not considered any of the factors Belcher emphasized in creating and applying his criteria, (Dollar Decl. Ex. 3 (Hendershott II Dep. Tr.) at 74:17-75:20), despite having access to FINRA’s surveillance techniques as a member of FINRA’s Market Surveillance Advisory Group (“MSAG”). (*Id.* at 10:12-:16). As an MSAG member, Hendershott interacted with FINRA employees and provided input into FINRA’s surveillance programs, including those related to layering. (*Id.* at 11:04-:11).

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<sup>9</sup> Belcher’s team investigates complaints of market manipulation that come from a variety of sources, including “[FINRA’s] surveillance, . . . regulatory tips, referrals from other exchanges or other regulators, [and] complaints that go through the internet or come through the internet.” (Dollar Decl. Ex. 9 (Belcher Dep. Tr.) at 34:1-:19).

The differences between the approaches of Hendershott and FINRA yield different results. Beginning in March 2016, FINRA began issuing monthly “report cards” to its membership that identified “potential”<sup>10</sup> (but not necessarily actual) instances of layering that had been conducted through that broker-dealer. (Dollar Decl. Ex. 7 (Belcher Ex. 15) at 1). When comparing the 93,787 Layering Loops that Hendershott identified between March 2016 and September 2016 to the FINRA report cards for LSC for the same time period, 77,056, or 82.2%, of Hendershott’s Layering Loops do not appear on the FINRA report cards. (Dollar Decl. Ex. 6 (Ross Rebuttal Report) ¶ 22).

**b. BATS Criteria**

BATS also utilized a significantly different set of requirements than Hendershott to identify possible layering. BATS developed criteria for two different sets of surveillance alerts, “Potential Layering” and “Layering.” According to BATS, a “Potential Layering” alert is described as follows:

The Potential Layering alert identifies a broker who performs the following actions within a three-minute window in a security:

1. Places at least ten orders on the same side of the market and the NBBO moves at least \$0.02.
2. Deletes the “layered” orders.

(Dollar Decl. Ex. 8 (BATS Layering Memo) at 1) (emphasis in original).<sup>11</sup>

<sup>10</sup> FINRA characterized its report cards as “identif[ying] potential spoofing or layering by the firm or entities to which the firm is providing market access [but] not reflect[ing] conclusions that violations have occurred; rather they indicate potential problems that need to be reviewed.” (Dollar Decl. Ex. 10 (“FINRA Issues First Cross-Market Report Cards Covering Spoofing and Layering” (Apr. 28, 2016)) at FINRA-SEC-LEK\_00011893). Each report card included the following statement: “This information is provided for informational purposes and does not reflect a determination by FINRA regarding whether the firms has violated applicable rules governing these activities.” (See, e.g., Dollar Decl. Ex. 11 (Exhibit 37 to Belcher Dep. Tr.)).

<sup>11</sup> In addition, BATS’ criteria to identify “Layering” requires: “The Layering alert identifies a broker who performs the following actions within a three-minute window in a security: (1) Places at least ten orders on the same side of the market and the NBBO moves at least \$0.02[;] (2) Enters a contra-side order of at least 1,000 shares and receives at least a partial execution[; and] (3) Deletes the ‘layered’ orders.” (Dollar Decl. Ex. 8 (BATS Layering Memo) at 1). Contemporaneous communications between BATS and LSC confirm that

Unlike BATS' Potential Layering and Layering criteria, Hendershott acknowledged that his criteria does not require at least ten orders on the same side of the market or an NBBO movement of at least \$0.02. Indeed, Hendershott does not require *any* NBBO movement and an order entry ratio of 2-to-1 is sufficient for his theory. (Dollar Decl. Ex. 3 (Hendershott II Dep. Tr.) at 77:8-80:17). Rather than utilize contemporary methodology available from a regulator, Hendershott—an academic, not a securities regulator—uses (1) a much lower numerical threshold for orders on the same of the side of the market and (2) does not consider NBBO movements at all, thereby resulting in a much broader set of criteria than BATS.

### C. Further Analyses of Layering Loops

Hendershott purports to perform additional analyses to validate whether the alleged Layering Loops: (1) have characteristics indicative of a layering strategy, and (2) whether those characteristics are likely to arise unintentionally or as part of a non-layering strategy. (Dollar Decl. Ex. 1 (Hendershott Report) at ¶ 22). The five further analyses Hendershott performs are what he refers to as a “Cancellation Analysis,” “Position Analysis,” “NBBO Movement Analysis,”<sup>12</sup> “Realized Spread Analysis,” and “Trading Revenue Analysis.” (*Id.* at ¶¶ 22-31).

Hendershott claims that his further analyses confirm that the Layering Loops he identified through his criteria are consistent with his definition of layering. (*Id.* at ¶ 11(c)). However, the five additional analyses were only conducted on the alleged Layering Loops and ignored the remaining 98.6% of Avalon's Loops. (Dollar Decl. Ex. 6 (Ross Rebuttal Report) at ¶

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BATS followed this criteria and used it when confronting market participants. For example, a July 26, 2013 email to LSC included an “Alert Summary” that included trading information for various symbols identified as “potential layering.” (Dollar Decl. Ex. 12 (Deposition Transcript of Jeff Connell, dated March 27, 2018 (“Connell Dep. Tr.”) at 197:8-208:5; Dollar Decl. Ex. 13 (Exhibit 95 to Connell Dep. Tr. (“Connell Ex. 95”))). Within the 38 rows of trades identified as potential layering, there were no rows in which the layering order count was less than ten and no rows in which the National Best Offer movement was less than \$0.02. (Dollar Decl. Ex. 13 (Connell Ex. 95); Dollar Decl. Ex. 12 (Connell Dep. Tr.) at 208:01-24).

<sup>12</sup> Hendershott, at the Commission's direction, only analyzed NBBO movement from Avalon sub-account 188 during the period from August 2012-December 2012, sub-account 208 from April 2013-September 2013, and sub-account 128 from March 2015-August 2015. (Dollar Decl. Ex. 1 (Hendershott Report) at ¶ 26 n.22).

25). Thus, Hendershott does not consider the vast majority of Avalon’s trading activity, which neither the Commission nor Hendershott contends was layering, or whether the observations he makes to justify his conclusions that layering occurred also existed in that “non-manipulative” trading data. An analysis<sup>13</sup> of Avalon’s entire trade data does, indeed, show that those same characteristics exist in the non-Layering Loops. (*Id.* at ¶¶ 23-30).

### **ARGUMENT**

Hendershott’s testimony and opinions should be excluded under Federal Rule of Evidence 702 as fundamentally unreliable. Hendershott’s testing used to identify trading behavior purportedly consistent with layering reflects an unorthodox methodology not reflected in law or academic research. Even worse, the criteria Hendershott uses to identify trading purportedly consistent with layering directly contradicts the methods used both by regulators and exchanges at the time of the inquisition. Hendershott’s methodology also suffers from selection bias, as Hendershott only analyzed a small subset of Avalon’s trade data selected by applying criteria that he believed would be consistent with a layering strategy. In other words, his results were pre-determined as a result of the criteria he used to select the tiny fraction of Avalon’s trade data that he would review. Accordingly, not only are Hendershott’s methodologies unsound, but his conclusions are meaningless, inherently unreliable, and should be excluded.

#### **I. LEGAL STANDARD**

Expert testimony has the potential to “be both powerful and quite misleading.” *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 595-98 (1993). For that reason, the Court must perform a critical “gatekeeper” role by excluding purported expert testimony that is not based upon sound methodology and closely tied to the issues in the case. *Daubert*, 509 U.S. at 595-98. “[T]he courtroom is not the place for scientific guesswork, even of the inspired sort.” *Rosen v.*

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<sup>13</sup> See *supra* Section II.B.2.

*Ciba-Geigy Corp.*, 78 F.3d 316, 319 (7th Cir. 1996) (Posner, J.) (excluding testimony that lacked scientific rigor). That is to say that the Court must “ensure that the courtroom door remains closed to junk.” *Amorgianos v. Nat’l R.R. Passenger Corp.*, 303 F.3d 256, 267 (2d Cir. 2002) (excluding expert’s testimony as unreliable).

As the Court knows, to meet these goals, Rule 702 of the Federal Rules of Evidence provides that a qualified witness may testify as an expert only if the following criteria are met:

(a) the expert’s scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue; (b) the testimony is based on sufficient facts or data; (c) the testimony is the product of reliable principles and methods; and (d) the expert has reliably applied the principles and methods to the facts of the case.

Under Rule 702, “it is critical that an expert’s analysis be reliable at every step,” meaning “any step that renders the analysis unreliable under the Daubert factors renders the expert’s testimony inadmissible.” *Amorgianos v. Nat’l R.R. Passenger Corp.*, 303 F.3d 256, 267 (2d Cir. 2002) (quoting *In re Paoli R.R. Yard PCB Litig.*, 35 F.3d 717, 745 (3d Cir. 1994)) (emphasis in original) (finding proposed expert opinion inadmissible where it contained a speculative step that assumed the rate of release of xylene from paint).

“In determining whether an expert’s opinions are reliable, the court’s focus must be on the expert’s reasoning and methodology, not on his conclusions.” *U.S. Commodity Futures Trading Comm’n v. Moncada*, No. 12 CIV. 8791 CM, 2014 WL 2945793, at \*2 (S.D.N.Y. June 30, 2014) (McMahon, J.) (excluding portions of expert testimony due to unreliable methodology where, “[i]nstead of reviewing all trading data for all traders on the eight alleged manipulation dates, [expert] only looked at a small fraction of [defendant’s] trading activity on five of the dates on which the alleged scheme took place”). “Judges are not to ‘be deceived’ by experts who

offer their credentials in lieu of analysis” because “impressive and extensive experience does not equate to analysis.” *Id.*

For this reason, “expert opinions that are not backed up with analysis, studies, or facts that support the conclusions do not meet the threshold test of reliability.” *Id.*; *see also Compania Embotelladora Del Pacifico, S.A. v. Pepsi Cola Co.*, 650 F. Supp. 2d 314, 319 (S.D.N.Y. 2009) (Rakoff, J.); *In re Rezulin Prods. Liab. Litig.*, 369 F. Supp. 2d 398, 426 (S.D.N.Y. 2005) (Kaplan, J.) (excluding opinions where “[t]he plaintiffs have no evidence for the final link in their causal chain, and they extrapolate from the earlier links in ways the Court finds unreliable”). “[T]he proponent of expert testimony has the burden of establishing by a preponderance of the evidence that the admissibility requirements of Rule 702 are satisfied.” *U.S. v. Williams*, 506 F.3d 151, 160 (2d Cir. 2007). Otherwise, Rule 702 “mandate[s] the exclusion of that unreliable opinion testimony.” *Amorgianos v. Nat’l R.R. Passenger Corp.*, 303 F.3d 256, 266 (2d Cir. 2002).

As set forth herein, the opinions of Hendershott, the Commission’s putative layering expert, do not meet this rigorous standard.

## **II. HENDERSHOTT’S PROPOSED TESTIMONY AND OPINIONS ARE INADMISSIBLE BECAUSE THEY ARE THE PRODUCT OF AN UNRELIABLE METHODOLOGY**

### **A. Hendershott’s Layering Methodology is Unreliable Because it is Based on His Own Novel, Untested, and Non-Peer-Reviewed Layering Criteria That Contradicts The Criteria of Industry Regulators**

#### **1. *Opinions Flowing From Novel and Unorthodox Methodologies Have Been Rejected by Courts as Unreliable***

Purported expert opinions are not admissible per Rule 702 when, as here, the putative expert used novel and unorthodox methodologies that are untested and at odds with methods employed by the industry and industry regulators. *See, e.g., Elcock v. Kmart Corp.*, 233 F.3d



734 (3d Cir. 2000) (rejecting expert testimony that “employed an untested, novel method” that combined “two widely used methods” because the mixed methodology was neither generally accepted, nor necessarily bore a logical relationship to the two “widely used methods”).

“[T]he courtroom is not the place for scientific guesswork, even of the inspired sort. Law lags science; it does not lead it.” *Rosen*, 78 F.3d at 319. Thus, courts routinely exclude as unreliable a putative expert’s opinion sourced from a novel and untested methodology that is not rooted in scientifically sound methods. In the analogous case *U.S. Securities and Exchange Commission v. Mudd*, the Southern District of New York granted defendant’s motion to exclude the Commission’s financial economist, who used a novel method to conduct what he referred to as an “indicative exposure analysis.” 11 Civ. 9202 (PAC), 2016 2593980, \*2 (S.D.N.Y. May 3, 2016) (Crotty, J.). There, the court found it problematic that “[t]here is no treatise, article, or paper that has applied [the putative expert’s] method of calculating indicative exposure, nor has any economist tested this methodology.” *Id.* at \*2. In holding that the expert witness’ conclusions were not based on reliable principles and methods, the court stated that the expert witness’ “analysis [was] novel, untested, and not peer reviewed; there is no known error rate; and it has not been generally accepted by the relevant scientific community.” *Id.* at \*3.

The Southern District of New York reached a similar conclusion in *LVL XIII Brands, Inc. v. Louis Vuitton Malletier S.A.*, 209 F. Supp. 3d 612, 646 (S.D.N.Y. 2016) (Engelmayer, J.), *aff’d sub nom. LVL XIII Brands, Inc. v. Louis Vuitton Malletier SA*, 720 F. App’x 24 (2d Cir. 2017). There, the court examined the use of “VCS methodology” to determine whether a defendant infringed on plaintiff’s trademark rights. The court found that the VCS methodology used by defendant’s expert witness was not reliable, in part because the witness did “not show[] that his methodology has been recognized by the courts or gained acceptance within the relevant expert

community. . . . On the contrary, he acknowledged that the VSC methodology is at odds with ‘traditional measures used to determine secondary meaning’. . . he also failed to identify any study or scholarly literature in which VSC was applied to measure secondary meaning.” *Id.* at 646.

Likewise, in *In re the Bear Stearns Companies, Inc. Sec.*, the Southern District of New York excluded an expert’s testimony where the expert’s methodology had not achieved general acceptance within the relevant scientific community, and was neither peer reviewed or acknowledged by courts. No. 08 MDL 1963 (RWS), 2016 WL 4098385, at \*9 (S.D.N.Y. July 25, 2016) (Sweet, J.) (excluding novel theory about loss causation).

Although Hendershott is an academic, his methodology wanders alone in the wilderness, as: (1) he cites to no source for any element of his novel layering criteria, including academic literature; (2) he has never written about his testing methods in any of his numerous publications; (3) he has not submitted his methodology for peer review; and fatally (4) he cannot identify a single broker-dealer, securities trading firm, securities exchange, or regulator that has utilized his proposed theory for identifying layering. (*See, e.g.*, Dollar Decl. Ex. 1 (Hendershott Report) at ¶¶ 1-5, 16-18; Dollar Decl. Ex. 2 (Hendershott I Dep Tr.) at 27:23-31:10). Much like the experts in *Mudd*, *Louis Vuitton*, and *Bear Stearns*, Hendershott’s untested and bespoke approach does not meet the rigorous rules for admission.

The SEC has made extraordinarily serious allegations in this case and the potential sanctions that it is seeking against all of the defendants are extremely severe. With the stakes so high, this is neither the time nor the place to entertain the government’s use of a professor’s self-created methodology developed for the first time for this case, with absolutely no input, approval, or comment from any other uninterested or independent third parties.

**2. *Hendershott's Criteria Contradicts the Layering Surveillance Tests Utilized by Industry Regulators Such as BATS and FINRA***

Hendershott's methodology goes beyond being novel and untested. It is also demonstrably inconsistent with the layering criteria utilized by securities industry regulators. While novel techniques can sometimes be appropriate in a matter of first impression, here, no such allowances should be made. *See, e.g., Cayuga Indian Nation v. Pataki*, 83 F. Supp. 2d 318 (N.D.N.Y. 2000) (admitting testimonies of two expert real estate appraisers who used novel techniques where, despite extensive experience, "none ha[d] ever been confronted with an appraisal situation such as th[e]" case before it"). Unlike *Cayuga*, where the court found that novel techniques were admissible, there is no such necessity for novelty here. Indeed, securities industry regulators have been using methodologies to identify potential layering for several years. (Dollar Decl. Ex. 8 (BATS Layering Memo) at 1; Dollar Decl. Ex. 9 (Belcher Dep. Tr.) at 76:04-16); *see also Trillium Brokerage Services, LLC*, Letter of Acceptance, Waiver, and Consent No. 2000076782-01 (Aug. 8, 2010); *In re Hold Brothers On-Line Investment Services, LLC et al.*, Exchange Act Release No. 67924 (Sept. 25, 2012); *In re Biremis Corp., Beck, & Kim*, Exchange Act Release No. 68456, 2012 WL 6587520 (Dec. 18, 2012).

Moreover, Hendershott had access to existing methodologies—indeed, he is hired by the Commission (which oversees FINRA) and has been advising FINRA on market surveillance issues, including techniques for surveilling for layering. Yet, he made the affirmative decision not to seek input or comment from those regulators (or anyone else) about how to construct a meaningful and reliable methodology for identifying potential layering. (*See, e.g., Dollar Decl. Ex. 3 (Hendershott II Dep. Tr.) at 74:11-75:08*). His conscious decision to ignore contemporary methodologies for trying to identify the same conduct underscores why admitting Hendershott's

opinions would be contrary to the well-established safeguards set forth in *Daubert* and its progeny.

Hendershott's layering criteria fundamentally departs from each of the layering criteria utilized by industry regulators. For example, none of Hendershott's criteria appear in BATS' methodology to detect layering or potential layering. BATS does not apply the arbitrary limit of 60-seconds (*i.e.*, Hendershott's Criterion 1), does not require a 2-to-1 ratio of Loud-side orders to Quiet-side orders (*i.e.*, Criterion 2), and does not call for at least a 3-to-1 ratio of executed Quiet-side shares to executed Loud-side shares (*i.e.*, Criterion 3).<sup>14</sup> To the contrary, to qualify as just "Potential Layering," BATS requires at least *ten* orders on the same side of the market and—in recognition of the need to track market reaction to the supposed "layer" or Loud-side—an NBBO movement of at least \$0.02.<sup>15</sup>

Hendershott's layering criteria fare no better when compared to FINRA's methodology. Hendershott wholesale fails to consider any of the multitude of factors identified in FINRA's layering criteria, such as "liquidity of the stock within the layering activity," "spread in the security," and the "type of security"—all information Hendershott could have obtained from the SEC. (Dollar Decl. Ex. 9 (Belcher Dep. Tr.) at 74:15-75:14). Given the significant differences in approaches, it is not surprising that the application of Hendershott's and FINRA's criteria lead to vastly different results. Specifically, a staggering 82.2% of purported Layering Loops identified by Hendershott using his criteria for the period between March 2016 (when FINRA started issuing the Report Cards) and September 2016 (the last month of trading data included in the Avalon Trade Data) did *not* contain any orders that FINRA flagged as potential (not actual) layering in its Report Cards issued to LSC. (Dollar Decl. Ex. 6 (Ross Rebuttal Report) ¶ 22).

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<sup>14</sup> (Dollar Decl. Ex. 8 (BATS Layering Memo) at 1; Dollar Decl. Ex. 13 (Connell Ex. 95); Dollar Decl. Ex. 12 (Connell Dep. Tr.) at 208:01-24).

<sup>15</sup> (*Id.*)

Stated differently, FINRA's Report Cards did not flag as potential layering an overwhelming 77,056 of the 93,787 alleged Layering Loops Hendershott identified during the same six-month period.

This remarkable discrepancy between Hendershott's criteria and industry regulators' criteria completely undercuts Hendershott's opinions regarding the alleged Layering Loops in the Avalon Trade Data. "Widespread acceptance can be an important factor in ruling particular evidence admissible, and a known technique which has been able to attract only minimal support within the community, . . . may properly be viewed with skepticism." *Campbell ex rel. Campbell v. Metro. Prop. & Cas. Ins. Co.*, 239 F.3d 179, 185 (2d Cir. 2001). As Hendershott has made no finding that any single loop constitutes actual layering, (*see, e.g.*, Dollar Decl. Ex. 2 (Hendershott I Dep Tr.) at 20:03-:11), and the Commission intends to rely on his purported statistical analysis to prove underlying wrongdoing by Avalon, (*Id.* at 22:17-23:02), it is vital that Hendershott's statistical analysis be sound and consistent with existing industry practice. His analysis is neither and the SEC should not be permitted to point to Hendershott's unsupported number of alleged "Layering Loops" as evidence on which a jury can base a finding of manipulative or deceptive conduct.

### **3. *Hendershott's Criteria Does Not Consider Sequencing of Events***

Hendershott's methodology is also unreliable because the data analyzed ignores the sequence of order events. In the simplest of terms, it does not consider the critical factor of whether there was an order imbalance (or even whether any Loud side orders were open) at the time of the Quiet-side executions in the Layering Loops.

An expert opinion must be based on "sufficient facts and data" in order to be admissible. Fed. R. Evid. 702. "[W]hen an expert opinion is based on data, a methodology, or studies that are simply inadequate to support the conclusions reached, *Daubert* and Rule 702 mandate the

exclusion of that unreliable opinion testimony.” *Amorgianos v. Nat’l R.R. Passenger Corp.*, 303 F.3d 256, 266 (2d Cir. 2002). Critically, an expert may not—as Hendershott does here—disregard relevant information in conducting his analysis. *Id.* at 268. “To ignore contradictory testimony in order to arrive at a desired conclusion highlights the unreliability of [an expert’s] methodology.” *Faulkner v. Arista Records LLC*, 46 F. Supp. 3d 365, 383 (S.D.N.Y. 2014).

A total of 139,738 (approximately 20.7%) of Hendershott’s Layering Loops contain Quiet-side orders that were executed at a time when the order imbalance would not meet Hendershott’s Order Imbalance criterion. (Dollar Decl. Ex. 6 (Ross Rebuttal Report) at ¶ 21). Stated differently, nearly twenty-one percent of the Layering Loops contain a Quiet-side execution when there was no Loud-side imbalance to cause a layer. Thus, Hendershott’s failure to consider the sequencing of events (*i.e.*, the existence of an order imbalance at the time of Quiet-side executions) amounts to a material flaw in his methodology sufficient to bar his testimony as an expert because his conclusions lack grounds.

**B. Hendershott’s Proposed Testimony and Opinions Are Unreliable Because They Suffer From Selection Bias**

In rendering his opinions, Hendershott does not consider any of Avalon’s other trading, which constituted 47,799,524 Loops or approximately 98.6 of total Loops in the Avalon Trading Data. Although Hendershott opines that the characteristics of the purported Layering Loops are consistent with layering, he made no attempt to assess whether those characteristics also existed in the other types of loops that neither Hendershott nor the Commission contends constituted layering. Hendershott also does not account for loop characteristics that clearly are inconsistent with an alleged layering strategy. Both scenarios plainly contradict any suggestion of layering and render Hendershott’s conclusions inherently unreliable.

**1. *Hendershott Cherry Picks the Type of Stock Order Loops to Analyze While Ignoring Other Similar Types of Loops***

Hendershott’s decision to analyze Loops with an execution balance of 3-to-1 (his “Execution Balance” criterion, *i.e.*, 1 allegedly non-bona fide “Loud-side” execution to 3 allegedly “Quiet-side” executions) while ignoring similar types of Loops, with different ratios, renders his findings and opinions unreliable. “Where a sample is drawn from a subsection of the overall population that possesses some trait not shared by the remainder of the population, a study of that sample will tend to produce inaccurate results if this subsection-specific trait affects or correlates with the dependent variable in some way.” *In re: Pella Corp. Architect & Designer Series Windows Mktg., Sales Practices & Prod. Liab. Litig.*, 214 F. Supp. 3d 478, 492 (D.S.C. 2016). For that reason, courts have recognized the need for non-biased, representative sampling in various contexts where experts have attempted to draw generalized conclusions from limited data. *Id.* (excluding expert testimony because sample size was not appropriately representative of the larger population being measured).

In drawing his conclusion that there are allegedly 675,504 Layering Loops in the Avalon Trade Data, Hendershott only analyzes instances of stock order loops where the Quiet-side executed three times more frequently than the Loud-side, *i.e.*, there was a 3-to-1 Execution Imbalance. However, when his analysis is performed against all imbalanced Loops—meaning all loops throughout the complete set of Avalon’s trade data that have Hendershott’s criteria of at least twice as many Loud-side orders compared to Quiet-side orders—the results are drastically different.<sup>16</sup>

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<sup>16</sup> Specifically, there are 1.3 billion shares executed on the Loud-side and 2 billion shares executed on the Quiet-side, thus belying Hendershott’s claim that the characteristics that he asserts are consistent with a layering strategy “are unlikely to arise unintentionally or as part of a non-layering strategy that places orders on both sides of the market.” (Dollar Decl. Ex. 1 (Hendershott Report) at ¶ 11(c); Dollar Decl. Ex. 6 (Ross Rebuttal Report) at ¶ 17). This demonstrates that examining all instances where Avalon has imbalanced orders at a given time does not correlate to anything close to a three-to-one execution imbalance in favor of the Quiet-side.

Interestingly, in many cases, the placement of such order imbalances actually results in greater executions of Loud-side executions compared to Quiet-side orders. Specifically, there are 1,341,010 “Balanced Order Execution Loops” which satisfy all of Hendershott’s layering criteria with the exception of the three-to-one execution imbalance criteria. (Dollar Decl. Ex. 6 (Ross Rebuttal Report) at ¶ 24). For these loops, the total Loud-side quantity executed *substantially exceeds* the total Quiet-side quantity executed. (Dollar Decl. Ex. 6 (Ross Rebuttal Report) at ¶ 27). Contrary to Hendershott’s conclusions, which did not account for these types of loops even though they are twice the number of his so-called Layering Loops, the relatively high frequency of Balanced Order Execution Loops with greater Loud-side executions demonstrates that a trading strategy that involves placing two-sided imbalanced orders and leaving them open for 60 seconds or less does not typically result in imbalanced executions in favor of the Quiet-side. (Dollar Decl. Ex. 6 (Ross Rebuttal Report) at ¶ 27).

Instead, Hendershott’s observation that the Layering Loops reflect a strategy whereby Loud-side orders are executed substantially more frequently than Quiet-side orders is the direct and necessary result of how Hendershott established the criteria for identifying the only loops that he would analyze. As Hendershott chose to only examine order patterns where there was a three-to-one execution imbalance, his finding that those Loops had such execution imbalances is not remarkable and is instead a truism. Thus, Hendershott’s opinion regarding the alleged Layering Loops should be excluded.

**2. *Hendershott Does Not Conduct His Further Analyses Against Any Other Universe of Avalon Trade Data Except For the 675,504 Alleged Layering Loops Identified by His Untested Methodology***

Hendershott’s purported validation tests do not change the Rule 702 admissibility calculus because he runs his Cancellation, Position, NBBO Movement, Realized Spread, and



Trading Revenue analyses only on the alleged Layering Loops he identified, ignoring the remaining 98.6% of Avalon's Loops. (Dollar Decl. Ex. 6 (Ross Rebuttal Report) at ¶ 25).

The law is clear that “it is critical that an expert’s analysis be reliable at every step,” meaning “*any* step that renders the analysis unreliable under the *Daubert* factors renders the expert’s testimony inadmissible.” *Amorgianos v. Nat’l R.R. Passenger Corp.*, 303 F.3d 256, 267 (2d Cir. 2002) (quoting *In re Paoli R.R. Yard PCB Litig.*, 35 F.3d 717, 745 (3d Cir. 1994)) (emphasis in original). “In deciding whether a step in an expert’s analysis is unreliable, the district court should undertake a rigorous examination of the facts on which the expert relies, the method by which the expert draws an opinion from those facts, and how the expert applies the facts and methods to the case at hand.” *Amorgianos v. Nat’l R.R. Passenger Corp.*, 303 F.3d 256, 267 (2d Cir. 2002) (finding “district court did not abuse its discretion in excluding [putative expert’s] testimony upon reasonably concluding that the analytical gap between the studies on which she relied and her conclusions was simply too great and that her opinion was thus unreliable”). Courts will exclude an opinion as unreliable where, as here, there is “simply too great an analytical gap between the data and the opinion proffered.” *Id.* at 266 (2d Cir. 2002) (quoting *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997)). Hendershott’s opinion suffers from an “analytical gap” between the criteria he employs, which he runs against the alleged Layering Loops—but not the remaining 98.6% of Avalon’s Loops—and the conclusion that the alleged Layering Loops exhibit characteristics of layering.

By failing to test his further analyses on the remaining non-layering Loops, Hendershott has no scientific or other rational basis to conclude that the Layering Loops exhibit the alleged characteristics of layering. Not surprisingly, when Hendershott’s further analyses are tested on the non-layering Loops, the results show that his validation findings are in no way unique to the

alleged Layering Loops. (Dollar Decl. Ex. 6 (Ross Rebuttal Report) at ¶¶ 23-30). Accordingly, the five further analyses are effectively meaningless.

For example, in one of the further analyses—the Trading Revenues Analysis—Hendershott asserts that Layering Loops would typically exhibit the following characteristic: On average, orders executed on the Quiet-side in Layering Loops generate positive trading revenues, whereas Loud-side executions in Layering Loops generate negative trading revenues. (Dollar Decl. Ex. 1 (Hendershott Report) at ¶ 40). However, when applying Hendershott’s Trading Revenues analysis to the Loops he ignored—which Hendershott failed to do—the results show that, on average, the Loops he ignored had Quiet-side executions with positive trading revenues for all types of Loops and Loud-side executions with negative trading revenues for all types of Loops (except Balanced Order Entry Loops). (Dollar Decl. Ex. 6 (Ross Rebuttal Report) ¶ 75).<sup>17</sup>

As Hendershott’s “further analyses” findings are in no way unique to the alleged Layering Loops, his conclusions about the import of his observations are not accurate and therefore unreliable. His further analyses do nothing to validate whether Hendershott’s purported layering criteria properly identified the alleged Layering Loops. Accordingly, Hendershott’s selection bias results is an analytical gap between the data and his opinions, demonstrating that his opinions are unreliable.

### **3. *Hendershott Does Not Consider the Impact of Other Non-Avalon Market Participant Activity***

Hendershott’s methodology is unreliable because it also fails to account for other factors that could have independently impacted the trading at issue. To be reliable, a methodology should consider other potential factors that could impact the expert’s ultimate conclusion. For example, in *Thomas J. Kline, Inc. v. Lorillard, Inc.*, the Fourth Circuit held that the trial court

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<sup>17</sup> Similar infirmities exist in Hendershott’s remaining additional analyses. (See *id.* at ¶ 40 (Cancellation Analysis); ¶ 43 (Position Analysis); ¶ 47 (NBBO Analysis); ¶ 50 (Realized Spread Analysis)).

erred in permitting expert testimony in a credit and price discrimination action where, *inter alia*, the expert failed to consider five additional economic factors which could have impacted plaintiff's credit. 878 F.2d 791 (4th Cir. 1989). Similarly, in *In re Trasyol Prod. Liab. Litig.*, the district court cautioned that an expert "must at least consider other factors" in rendering a causation opinion and excluded an expert opinion based on the expert's failure to rule out other "possible alternative causes." No. 08-80588, 2010 WL 11470353, at \*5 (S.D. Fla. Dec. 3, 2010).

Not only did Hendershott make the extraordinary decision to ignore completely 98.6% of the total Loops in the Avalon Trade Data, he also confesses he did not consider whether non-Avalon limit orders were the ones that improved the quiet side executions. Despite the absence of this additional analysis, he is adamant he "see[s] no reason why to believe if something else is causing the [alleged layering] patterns":

Q: You would agree with me that because you did not review the full limit order book in determining whether the loud side orders improved the execution on the of the quiet side, that you can't rule out that non Avalon limit orders were the ones that improved the quiet side executions, correct?

...

A: And so, and more generally, in a layering strategy, the loud side orders are designed to affect other people's orders on that same side to improve the execution of the quiet side orders.

Q: But you don't know that, one way or the other, because you don't have that information, correct?

...

A: So, absent some reason why it would be important, it would be unnecessary. And so, more generally, there is 675,000 loops. And, so, the patterns we are seeing aren't occurring by chance. Now, if there is – so, I see no reason why to believe if something else is causing the patterns we are seeing.

(Dollar Decl. Ex. 3 (Hendershott II Dep. Tr.) at 51:9-15, 52:8-53:12).

His non-answer is revealing: Because he did not even possess the orders, cancellations and executions of other non-Avalon trades (because the SEC did not provide them), Hendershott cannot rule out that the penultimate effect of layering—better Quiet-side executions—was actually brought about by another non-Avalon trader.

**4. *Hendershott’s NBBO Analysis is Unreliable Because the Commission Selected the Small Sample of Trades to Analyze***

Hendershott’s NBBO Movement Analysis suffers from the same selection bias infirmities because the Commission—an interested party to the litigation—selected the sample size<sup>18</sup> to be analyzed. This is precisely the type of selection bias that courts have rejected as unreliable. Take, for example, *Coleman v. Union Carbide*, where the district court excluded expert testimony because of the “intense involvement of counsel in the sampling and testing process,” which was “not indicative of the discipline[d] use of the scientific method.” 2013 WL 5461855 (S.D.W.V. 2013). Similarly, in *Rowe Entm’t, Inc. v. William Morris Agency, Inc.*, the Southern District of New York found that an expert’s sample was unreliable because he did not use a random sample; rather, the sample was selected based on the “specific artists named in the complaint,” thus causing the sample to be “biased or weighted towards the concert contracts for those artists.” No. 98 CIV, 8272 (RPP), 2003 WL 22124991, at \*1 (S.D.N.Y. Sept. 15, 2003) (Patterson, J.). Likewise, in *U.S. Info. Sys., Inc. v. Int’l Bhd. of Elec. Workers Local Union No. 3, AFL-CIO*, the Southern District of New York found that the expert’s sample was unreliable because it was selected from a universe that was chosen by means of the discovery process, which was “systematically biased to select projects with the very price differentials the expert’s

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<sup>18</sup> “The [Commission] requested that I perform this analysis using data from Avalon sub-account 188 during the period from August 2012-December 2012, sub-account 208 from April 2013-September 2013, and sub-account 128 from March 2015-August 2015. A small part of this Avalon data did not have corresponding NBBO data in Wharton Research Data Services and is, therefore, not included in the NBBO analyses.” (Dollar Decl. Ex. 1 (Hendershott Report) at ¶ 26 n.22).

analysis was designed to test” and the expert failed to perform an independent analysis of the data. 313 F. Supp. 2d 213, 233 (S.D.N.Y. 2004) (Francis, M.J.). Further, in *Attenborough v. Constr. & Gen. Bldg. Laborers’ Local 79*, the Southern District of New York found plaintiffs were not a representative sample of the entire population in a disparate impact case because plaintiffs “self-selected based on the alleged harm they have suffered” and the comparative sample was biased toward the opposite result. 691 F. Supp. 2d 372, 386 (S.D.N.Y. 2009).

Nothing in the record addresses why the sample was selected. There is no explanation of why it could be considered a representative sample given that it relates to only three of the more than 1,000 subaccounts contained in the Layering Loops, why the particular time periods were chosen, or how the very small time periods were representative of the multi-year time period at issue in this case. The fact that Hendershott had no apparent role in determining this very small sample size of NBBO data for analysis renders suspect any attempt by Hendershott to extrapolate his observations on the Commission’s hand-picked data set to the rest of the so-called Layering Loops.

### **CONCLUSION**

For the foregoing reasons, the Lek Defendants respectfully request that the Court exclude the unreliable opinion testimony of Terrence Hendershott.

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